Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): A multilayered material for fabrication of a nanodevice, comprising:

(a) a device layer; and

(b) a substrate layer;

(c) said substrate layer having a top surface adjacent said device layer, and a bottom surface;

([[c]]d) wherein said substrate layer comprises a diffusion layer having a collection region adapted for capture of hydrogen;

(e) wherein the collection region is positioned away from the bottom surface of the substrate and toward the top surface; and

(f) wherein the substrate layer is adapted for diffusion of hydrogen from the bottom surface to the collection region.

2. (currently amended): A material as recited in claim 1[[,]]:

wherein said substrate layer further comprises an insulator layer between said device layer and said diffusion layer; and

wherein the collection region is adjacent the insulator layer.

3. (original): A material as recited in claim 1, wherein said collection region is a heavily doped region for capture of hydrogen.

4. (original): A material as recited in claim 1, wherein said collection region is a getter/acceptor region for capture of hydrogen.

5. (original): A material as recited in claim 1, wherein said device layer comprises a material having at least a portion that has been optimized for fabricating said nanodevice.

6. (original): A material as recited in claim 2, wherein said insulator layer comprises a material that provides a high degree of electrical and thermal insulation between the diffusion layer and the device layer.

7. (original): A material as recited in claim 1, wherein said diffusion layer comprises a material optimized for a high rate of diffusion of hydrogen therethrough.

8. (currently amended): A multilayered material for fabrication of a nanodevice, comprising:

(a) a device layer; and

(b) a substrate layer;

(c) said substrate layer having a top surface adjacent said device layer, and a bottom surface;

([[c]]d) wherein said substrate layer comprises a diffusion layer having a collection region adapted for capture of hydrogen;

([[d]]e) wherein said substrate layer further comprises an insulator layer between said device layer and said diffusion layer;

(f) wherein the collection region is positioned away from the bottom surface of the substrate and toward the top surface;

(g) wherein the collection region is adjacent the insulator layer; and

(h) wherein the substrate layer is adapted for diffusion of hydrogen from the bottom surface to the collection region.

9. (original): A material as recited in claim 8, wherein said collection region is a heavily doped region for capture of hydrogen.

10. (original): A material as recited in claim 8, wherein said collection region is a getter/acceptor region for capture of hydrogen.

11. (original): A material as recited in claim 8, wherein said device layer comprises a material having at least a portion that has been optimized for fabricating said nanodevice.

12. (original): A material as recited in claim 8, wherein said insulator layer comprises a material that provides a high degree of electrical and thermal insulation between the diffusion layer and the device layer.

13. (original): A material as recited in claim 8, wherein said diffusion layer comprises a material optimized for a high rate of diffusion of hydrogen therethrough.

14. (currently amended): A multilayered material for use in fabrication of a nanodevice, comprising:

(a) a device layer;

(b) an insulator layer adjacent said device layer; and

(c) a diffusion layer having a collection region adapted for capture of hydrogen adjacent said insulator layer;

(d) wherein the diffusion layer has a bottom surface;

(e) wherein the collection region is positioned away from the bottom surface and toward the insulator layer; and

(h) wherein the diffusion layer is adapted for diffusion of hydrogen from the bottom surface to the collection region.

15. (original): A material as recited in claim 14, wherein said collection region is a heavily doped region for capture of hydrogen.

16. (original): A material as recited in claim 14, wherein said collection region is a getter/acceptor region for capture of hydrogen.

17. (original): A material as recited in claim 14, wherein said device layer comprises a material having at least a portion that has been optimized for fabricating said nanodevice.

18. (original): A material as recited in claim 14, wherein said insulator layer comprises a material that provides a high degree of electrical and thermal insulation between the diffusion layer and the device layer.

19. (original): A material as recited in claim 14, wherein said diffusion layer comprises a material optimized for a high rate of diffusion of hydrogen therethrough.

20. (currently amended): A multilayered material for use in fabrication of a nanodevice, comprising:

(a) a layer of material for device fabrication;

(b) a layer of insulator material; and

(c) a layer of material though which hydrogen can diffuse at a high rate and having a collection region adapted for capture of hydrogen;

(d) wherein said layer of insulator material is disposed between said layer of material for device fabrication and said collection region;

(e) wherein the layer of material through which hydrogen can diffuse has a bottom surface;

(f) wherein the collection region is positioned away from the bottom surface and toward the layer of insulator material; and

(g) wherein the layer of material through which hydrogen can diffuse is adapted for diffusion of hydrogen from the bottom surface to the collection region.

21. (original): A material as recited in claim 20, wherein said collection region is a heavily doped region for capture of hydrogen.

22. (currently amended): A material as recited in claim 20, wherein said ~~diffusion~~ layer of material through which hydrogen can diffuse has a getter/acceptor region for capture of hydrogen.

23. (currently amended): A material as recited in claim 20, wherein said ~~device~~ layer of material for device fabrication comprises a material having at least a portion that has been optimized for fabricating said nanodevice.

24. (currently amended): A material as recited in claim 20, wherein said ~~insulator~~ layer of insulating material provides a high degree of electrical and thermal insulation between the ~~diffusion~~ layer of material through which hydrogen can diffuse and the ~~device~~ layer of material for device fabrication.

25. (currently amended): A material as recited in claim 20, wherein said ~~diffusion~~ layer of material through which hydrogen can diffuse comprises a material optimized for a high rate of diffusion of hydrogen therethrough.

26. (currently amended): A multilayered material for use in fabrication of a nanodevice, comprising:

(a) a layer of material for device fabrication, said material having at least a portion that has been optimized for fabricating said nanodevice;

(b) a layer of material though which hydrogen can diffuse at a high rate and having a collection region adapted for capture of hydrogen, said collection region comprising a heavily doped region or a getter/acceptor region;

(c) wherein said ~~diffusion~~ layer of material through which hydrogen can diffuse comprises a material optimized for a high rate of diffusion of hydrogen therethrough; and

(d) a layer of insulator material, wherein said ~~insulator~~ layer of insulator material provides a high degree of electrical and thermal insulation between the ~~diffusion~~ layer of material through which hydrogen can diffuse and the ~~device~~ layer of material for device fabrication;

(e) wherein the ~~insulator~~ layer of insulator material is disposed between the ~~device~~ layer of material for device fabrication and the ~~diffusion~~ layer of material through which hydrogen can diffuse;

(f) wherein the layer of material through which hydrogen can diffuse has a bottom surface;

(g) wherein the collection region is positioned away from the bottom surface and toward the layer of insulator material; and

(h) wherein the layer of material through which hydrogen can diffuse is adapted for diffusion of hydrogen from the bottom surface to the collection region.

27. (original): A material as recited in claim 1, 8, 14, 20 or 26, further comprising at least one heat dissipation layer.

28. (original): A material as recited in claim 1, 8, 14, 20 or 26, further comprising at least one RF shield layer.

29. (currently amended): A method of fabricating a multilayered material for use in making a nanodevice, comprising:

providing a wafer having at least a portion that has been optimized for making said nanodevice;

implanting said wafer with hydrogen to a depth associated with a thickness to remain after an ion cut; and

bonding said wafer to a substrate layer;

said substrate layer comprising a diffusion layer having a collection region adapted for capture of hydrogen;

said substrate layer having a top surface adjacent said wafer, and a bottom surface;

said collection region positioned away from the bottom surface of the substrate and toward the top surface; and

said substrate layer adapted for diffusion of hydrogen from the bottom surface to the collection region.

30. (original): A method as recited in claim 29, wherein said substrate layer further comprises an insulator layer bonded to said diffusion layer.

31. (original): A method as recited in claim 29, wherein said collection region is a heavily doped region for capture of hydrogen.

32. (original): A method as recited in claim 29, wherein said collection region is a getter/acceptor region for capture of hydrogen.

33. (original): A method as recited in claim 29, further comprising ion cutting said wafer so as to leave a device layer bonded to the substrate layer.

34. (original): A method as recited in claim 30, wherein said substrate layer is formed according to the steps comprising:

creating hydrogen getters in said collection region; and

bonding the insulator layer to a surface of the diffusion layer adjacent the collection region.

35. (original): A method as recited in claim 30, wherein said substrate layer is formed according to the steps comprising:

bonding the insulator layer to a surface of the diffusion layer adjacent the collection region; and

creating hydrogen getters in said collection region beneath said insulator layer.

36. (original): A method as recited in claim 29, further comprising ion cutting said wafer so as to leave a device layer bonded to the substrate layer.

37. (currently amended): A method as recited in claim 36, further comprising:

planarizing said device layer;

bonding said device layer to a 3-d stack or handle;

injecting and diffusing hydrogen into said collection region; [[and]]

ion cutting said diffusion layer at said collection region; and

removing said remaining diffusion layer and insulator layer.

38. (currently amended): A method of fabricating a multilayered material for use in making a nanodevice, comprising:

providing a wafer having at least a portion that has been optimized for making said nanodevice;

implanting said wafer with hydrogen to a depth associated with a thickness to remain after an ion cut; and

bonding said wafer to a substrate layer;

said substrate layer comprising a diffusion layer having a collection region adapted for capture of hydrogen;

said substrate <u>further</u> comprising an insulator layer bonded to said diffusion layer;

<u>said insulator layer positioned adjacent to said wafer;</u>

<u>said diffusion layer having a bottom surface;</u>

<u>said collection region positioned away from the bottom surface and toward the insulator layer;</u>

<u>said diffusion layer adapted for diffusion of hydrogen from the bottom surface to the collection region</u>.

39. (original): A method as recited in claim 38, wherein said collection region is a heavily doped region for capture of hydrogen.

40. (original): A method as recited in claim 38, wherein said collection region is a getter/acceptor region for capture of hydrogen.

41. (original): A method as recited in claim 38, further comprising ion cutting said wafer so as to leave a device layer bonded to the substrate layer.

42. (original): A method as recited in claim 38, wherein said substrate layer is formed according to the steps comprising:

creating hydrogen getters in said collection region; and

bonding the insulator layer to a surface of the diffusion layer adjacent the collection region.

43. (original): A method as recited in claim 38, wherein said substrate layer is formed according to the steps comprising:

bonding the insulator layer to a surface of the diffusion layer adjacent the collection region; and

creating hydrogen getters in said collection region beneath said insulator layer.

44. (currently amended): A method as recited in claim 38, further comprising:

planarizing said device layer;

bonding said device layer to a 3-d stack or handle;

injecting and diffusing hydrogen into said collection region; [[and]]

ion cutting said diffusion layer at said collection region; and

removing said remaining diffusion layer and insulator layer.

45. (currently amended): A method of fabricating a multilayered material for use in making a nanodevice, comprising:

providing a wafer having at least a portion that has been optimized for making said nanodevice;

implanting said wafer with hydrogen to a depth associated with a thickness to remain after an ion cut;

bonding said wafer to a substrate layer;

said substrate layer comprising a diffusion layer having a collection region adapted for capture of hydrogen;

said diffusion layer having a bottom surface;

said substrate layer further comprising an insulator layer bonded to said diffusion layer;

said insulator layer positioned adjacent to said wafer;

said collection region positioned away from the bottom surface and toward the insulator layer;

said diffusion layer adapted for diffusion of hydrogen from the bottom surface to the collection region; and

ion cutting said wafer so as to leave a device layer bonded to the substrate layer.

46. (original): A method as recited in claim 45, wherein said collection region is a heavily doped region for capture of hydrogen.

47. (original): A method as recited in claim 45, wherein said collection region is a getter/acceptor region for capture of hydrogen.

48. (original): A method as recited in claim 45, further comprising ion cutting said wafer so as to leave a device layer bonded to the substrate layer.

49. (original): A method as recited in claim 45, wherein said substrate layer is formed according to the steps comprising:

creating hydrogen getters in said collection region; and

bonding the insulator layer to a surface of the diffusion layer adjacent the collection region.

50. (original): A method as recited in claim 45, wherein said substrate layer is formed according to the steps comprising:

bonding the insulator layer to a surface of the diffusion layer adjacent the collection region; and

creating hydrogen getters in said collection region beneath said insulator layer.

51. (currently amended); A method as recited in claim 45, further comprising:

planarizing said device layer;

bonding said device layer to a 3-d stack or handle;

injecting and diffusing hydrogen into said collection region; [[and]]

ion cutting said diffusion layer at said collection region; and

removing said remaining diffusion layer and insulator layer.

52. (currently amended): A method of fabricating a multilayered material for use in making a nanodevice, comprising:

providing a wafer having at least a portion that has been optimized for making said nanodevice;

implanting said wafer with hydrogen to a depth associated with a thickness to remain after an ion cut;

forming a diffusion layer having a region for collecting hydrogen;

said diffusion layer having a top and a bottom surface;

bonding said diffusion layer to an insulator layer at said top surface;

said region for collecting hydrogen positioned away from the bottom surface and toward the insulator layer;

said diffusion layer adapted for diffusion of hydrogen from the bottom surface to the region for collecting hydrogen;

bonding said insulator layer to said wafer; and

ion cutting said wafer so as to leave a device layer bonded to the substrate layer.

53. (original): A method as recited in claim 52, wherein said collection region is a heavily doped region for capture of hydrogen.

54. (original): A method as recited in claim 52, wherein said collection region is a getter/acceptor region for capture of hydrogen.

55. (original): A method as recited in claim 52, wherein said substrate layer is formed according to the steps comprising:

creating hydrogen getters in said collection region; and

bonding the insulator layer to a surface of the diffusion layer adjacent the collection region.

56. (original): A method as recited in claim 52, wherein said substrate layer is formed according to the steps comprising:

bonding the insulator layer to a surface of the diffusion layer adjacent the collection region; and

creating hydrogen getters in said collection region beneath said insulator layer.

57. (currently amended): A method as recited in claim 52, further comprising:

planarizing said device layer;

bonding said device layer to a 3-d stack or handle;

injecting and diffusing hydrogen into said collection region; [[and]]

ion cutting said diffusion layer at said collection region; and

removing said remaining diffusion layer and insulator layer.

58. (currently amended): A method of fabricating a multilayered material for use in making a nanodevice, comprising:

providing a wafer having at least a portion that has been optimized for making said nanodevice;

implanting said wafer with hydrogen to a depth associated with a thickness to remain after an ion cut;

forming a diffusion layer having a region for collecting hydrogen;

said diffusion layer having a top and a bottom surface;

bonding said diffusion layer to an insulator layer at said top surface;

said region for collecting hydrogen positioned away from the bottom surface and toward the insulator layer;

said diffusion layer adapted for diffusion of hydrogen from the bottom surface to the region for collecting hydrogen;

bonding said insulator layer to said wafer;

ion cutting said wafer so as to leave a device layer bonded to the substrate layer; and

planarizing said device layer.

59. (original): A method as recited in claim 58, wherein said collection region is a heavily doped region for capture of hydrogen.

60. (original): A method as recited in claim 58, wherein said collection region is a getter/acceptor region for capture of hydrogen.

61. (original): A method as recited in claim 58, wherein said substrate layer is formed according to the steps comprising:

creating hydrogen getters in said collection region; and

bonding the insulator layer to a surface of the diffusion layer adjacent the

collection region.

62. (original): A method as recited in claim 58, wherein said substrate layer is formed according to the steps comprising:

bonding the insulator layer to a surface of the diffusion layer adjacent the collection region; and

creating hydrogen getters in said collection region beneath said insulator layer.

63. (currently amended): A method as recited in claim 58, further comprising:

bonding said device layer to a 3-d stack or handle;

injecting and diffusing hydrogen into said collection region; [[and]]

ion cutting said diffusion layer at said collection region; and

removing said remaining diffusion layer and insulator layer.

64. (currently amended): A method of fabricating a nanodevice, comprising:

providing a wafer having at least a portion that has been optimized for making said nanodevice;

implanting said wafer with hydrogen to a depth associated with a thickness to remain after an ion cut;

forming a diffusion layer having a region for collecting hydrogen;

said diffusion layer having a top and a bottom surface;

bonding said diffusion layer to an insulator layer at said top surface;

said region for collecting hydrogen positioned away from the bottom surface and toward the insulator layer;

said diffusion layer adapted for diffusion of hydrogen from the bottom surface to the region for collecting hydrogen;

bonding said insulator layer to said wafer;

ion cutting said wafer so as to leave a device layer bonded to the substrate layer;

planarizing said device layer;

bonding said device layer to a 3-d stack or handle;

injecting and diffusing hydrogen into said collection region; and

ion cutting said diffusion layer at said collection region.

65. (original): A method as recited in claim 64, wherein said collection region is a heavily doped region for capture of hydrogen.

66. (original): A method as recited in claim 64, wherein said collection region is a getter/acceptor region for capture of hydrogen.

67. (original): A method as recited in claim 64, wherein said substrate layer is formed according to the steps comprising:

creating hydrogen getters in said collection region; and

bonding the insulator layer to a surface of the diffusion layer adjacent the collection region.

68. (original): A method as recited in claim 64, wherein said substrate layer is formed according to the steps comprising:

bonding the insulator layer to a surface of the diffusion layer adjacent the collection region; and

creating hydrogen getters in said collection region beneath said insulator layer.

69. (original): A method as recited in claim 64, further comprising:

removing said remaining diffusion layer and insulator layer.

70. (currently amended): A method of fabricating a nanodevice, comprising:

providing a wafer having at least a portion that has been optimized for making said nanodevice;

implanting said wafer with hydrogen to a depth associated with a thickness to remain after an ion cut;

said diffusion layer having a top and a bottom surface;

bonding a diffusion layer to an insulator layer at said top surface;

said diffusion layer having a region for collecting hydrogen;

said region for collecting hydrogen positioned away from the bottom surface and toward the insulator layer;

said diffusion layer adapted for diffusion of hydrogen from the bottom surface to the region for collecting hydrogen;

bonding said insulator layer to said wafer;

ion cutting said wafer so as to leave a device layer bonded to the substrate layer;

planarizing said device layer;

bonding said device layer to a 3-d stack or handle;

injecting and diffusing hydrogen into said heavily doped region;

ion cutting said diffusion layer at said heavily doped region; and

removing said remaining diffusion layer and insulator layer.

71. (original): A method as recited in claim 70, wherein said collection region is a heavily doped region for capture of hydrogen.

72. (original): A method as recited in claim 70, wherein said collection region is a getter/acceptor region for capture of hydrogen.

73. (original): A method as recited in claim 70, further comprising ion cutting said wafer so as to leave a device layer bonded to the substrate layer.

74. (original): A method as recited in claim 70, wherein said substrate layer is formed according to the steps comprising:

creating hydrogen getters in said collection region; and

bonding the insulator layer to a surface of the diffusion layer adjacent the collection region.

75. (original): A method as recited in claim 70, wherein said substrate layer is formed according to the steps comprising:

bonding the insulator layer to a surface of the diffusion layer adjacent the collection region; and

creating hydrogen getters in said collection region beneath said insulator layer.

76. (original): A method as recited in claim 34, 35, 42, 43, 49, 50, 55, 56, 61, 62, 67, 68, 74 or 75, wherein said hydrogen getters are created by atomic injection.

77. (original): A method as recited in claim 34, 35, 42, 43, 49, 50, 55, 56, 61, 62, 67, 68, 74 or 75, wherein said hydrogen getters are created by plasma injection.

78. (original): A method as recited in claim 34, 35, 42, 43, 49, 50, 55, 56, 61, 62, 67, 68, 74 or 75, wherein said hydrogen getters are created by injection from a solid source adjacent said diffusion layer.

79. (original): A method as recited in claim 34, 35, 42, 43, 49, 50, 55, 56, 61, 62, 67, 68, 74 or 75, further comprising pulse heating said diffusion layer during injection of hydrogen getters.

80. (original): A method as recited in claim 29, 38, 45, 52, 58, 64 or 70, further comprising forming vias and metallization to connect two or more said layers.